

(12) **United States Design Patent** (10) Patent No.: **US D801,624 S**
 (45) Date of Patent: **** Nov. 7, 2017**

(54) **HEAT PACK**(71) Applicant: **Schawbel Technologies LLC**,
 Burlington, MA (US)(72) Inventors: **Veronica M. Zsolcsak**, Newburyport,
 MA (US); **Micha Eizen**, Lake Forest,
 CA (US); **Thomas John William**
Bayes, Rothwell (GB); **Ian Nicholson**
Whitehead, Concord, MA (US)(73) Assignee: **Schawbel Technologies LLC**,
 Burlington, MA (US)(***) Term: **15 Years**(21) Appl. No.: **29/609,460**(22) Filed: **Jun. 30, 2017****Related U.S. Application Data**(62) Division of application No. 29/533,210, filed on Jul.
 15, 2015, now Pat. No. Des. 794,813.(51) **LOC (10) Cl.** **24-04**(52) **U.S. Cl.** **USPC** **D2/206**(58) **Field of Classification Search**

USPC D6/601, 595, 596, 604; D7/500, 550.1,
 D7/554.3; D24/200, 206, 207
 CPC A61F 7/00; A61F 7/02; A61F 7/03; A61F
 7/0097; A61F 7/08; A61F 7/007; A61F
 7/0241; A61F 2007/0001; A61F
 2007/022; A61F 2007/023; A61F
 2007/0024; A61F 2007/0238; A61F
 2007/0025; A61F 2007/0026; A61F
 2007/0027

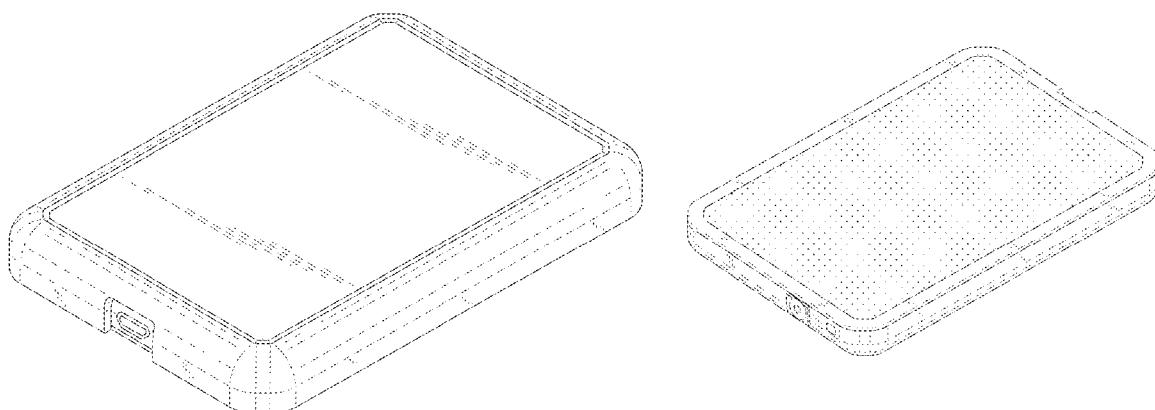
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,211,636 A * 8/1940 Bates A61F 7/10
 62/530
 D139,751 S * 12/1944 Springwell D7/363

2,680,918 A	6/1952	Behner
3,202,801 A *	8/1965	Saluri H05B 3/342 219/528
3,360,633 A	12/1967	Weisberger
3,585,736 A	6/1971	Polichena
3,621,191 A	11/1971	Cornwell
3,800,133 A	3/1974	Duval
4,470,263 A	9/1984	Lehovec et al.
4,507,877 A	4/1985	Vaccari et al.
D285,523 S *	9/1986	Ayukawa D7/367
4,640,284 A	2/1987	Ruderian
4,665,301 A	5/1987	Bondy
4,699,123 A	10/1987	Laborowski
D296,509 S *	7/1988	Fuke D7/363
D300,606 S	4/1989	Schwabel et al.
4,823,482 A	4/1989	Lakic
D303,524 S	9/1989	Siegner et al.
4,894,931 A	1/1990	Senee et al.
4,910,881 A	3/1990	Baggio et al.
5,041,717 A	8/1991	Shay, III et al.
D320,212 S	9/1991	Someya
5,230,170 A	7/1993	Dahle
D351,337 S	10/1994	Bonnema et al.
D366,390 S *	1/1996	Vitantonio D7/363
5,483,759 A	1/1996	Silverman
5,495,682 A	3/1996	Chen
5,522,722 A	6/1996	Diederich
5,565,124 A	10/1996	Balzano
5,592,759 A	1/1997	Cox
5,623,772 A	4/1997	Sunderland et al.
D389,953 S	1/1998	Seifert
D391,019 S	2/1998	Seifert
5,800,490 A	9/1998	Patz et al.
5,802,865 A	9/1998	Strauss
5,830,208 A	11/1998	Muller
5,857,262 A	1/1999	Bonnema et al.
5,875,571 A	3/1999	Huang
5,882,106 A	3/1999	Galli
5,944,508 A	8/1999	Bonnema
5,956,866 A	9/1999	Spears
5,970,718 A	10/1999	Arnold
6,033,212 A	3/2000	Bonnema et al.
6,074,414 A	6/2000	Haas et al.
6,094,844 A	8/2000	Potts
D432,493 S	10/2000	Killebrew et al.
6,125,636 A	10/2000	Taylor et al.
6,176,596 B1	1/2001	Shukla et al.
6,189,327 B1	2/2001	Strauss et al.
D440,201 S	4/2001	Huynh et al.
D442,285 S	5/2001	Perry
D442,426 S	5/2001	Garber et al.
6,235,983 B1	5/2001	Becker et al.
6,320,161 B1	11/2001	Hansen, Jr.



US D801,624 S

Page 2

6,523,836	B1	2/2003	Chang et al.	9,101,177	B2	8/2015	Whitehead et al.
6,649,873	B1	11/2003	Cintron, Jr. et al.	9,179,734	B2	11/2015	Zsolcsak et al.
6,657,164	B1	12/2003	Koch	D746,097	S	12/2015	Davenport
D486,789	S	2/2004	Santiago	9,215,905	B2	12/2015	Tseng
6,701,639	B2	3/2004	Treptow et al.	D757,280	S	5/2016	Ogaki et al.
6,733,282	B2	5/2004	Long	D762,308	S	7/2016	Wang
6,770,848	B2	8/2004	Haas et al.	D773,681	S	12/2016	Elam et al.
6,840,955	B2	1/2005	Ein	D787,694	S *	5/2017	Baltazar
6,841,757	B2	1/2005	Marega et al.	D791,201	S *	7/2017	Kim
6,865,825	B2	3/2005	Bailey, Sr. et al.	D794,813	S *	8/2017	Zsolcsak
7,022,093	B2	4/2006	Smith et al.	2003/0114902	A1	6/2003	Prescott
7,052,167	B2 *	5/2006	Vanderschuit	2003/0145494	A1	8/2003	Hsu
			A61F 7/02				
			362/231				
				2004/0210214	A1	10/2004	Knowlton
D528,075	S	9/2006	Sugeno et al.	2004/0211189	A1	10/2004	Arnold
D533,016	S *	12/2006	Genslak	2004/0244810	A1	12/2004	Henninger et al.
D533,832	S	12/2006	Hock	2005/0028401	A1	2/2005	Johnson
D534,307	S	12/2006	Vu	2005/0126049	A1	6/2005	Koenig
D534,308	S	12/2006	Vu	2005/0193742	A1	9/2005	Arnold
7,152,345	B2	12/2006	Koenig	2005/0245852	A1 *	11/2005	Ellefson
7,161,056	B2 *	1/2007	Gudnason	A61F 13/0203			A61K 9/703
			602/42				602/2
				2006/0163242	A1 *	7/2006	Ciancimino
							A47J 37/0676
							219/450.1
D538,225	S	3/2007	Lyman et al.	2006/0174521	A1	8/2006	Lee
D538,226	S	3/2007	Lyman et al.	2006/0201025	A1	9/2006	Chou
D546,277	S	7/2007	Andre et al.	2006/0230641	A1	10/2006	Vick et al.
7,244,253	B2	7/2007	Neev	2006/0235346	A1	10/2006	Prescott
D552,081	S	10/2007	Yano	2006/0283050	A1	12/2006	Games et al.
D575,098	S *	8/2008	Seymour	2007/0039201	A1	2/2007	Axinte
7,497,037	B2	3/2009	Vick et al.	2007/0053212	A1	3/2007	Vieira Formenti
7,565,754	B1	7/2009	Acheson et al.	2008/0016715	A1	1/2008	Vickroy
D598,163	S	8/2009	Overend et al.	2008/0069524	A1	3/2008	Yamauchi et al.
D598,164	S	8/2009	Overend et al.	2008/0077211	A1	3/2008	Levinson et al.
D602,432	S	10/2009	Moussa	2008/0083720	A1	4/2008	Gentile et al.
D602,597	S	10/2009	Nomi et al.	2008/0135537	A1	6/2008	Suber et al.
D609,180	S	2/2010	Suzuki et al.	2008/0197126	A1	8/2008	Bourke et al.
7,714,709	B1	5/2010	Daniel	2009/0013554	A1	1/2009	MacHer et al.
7,716,856	B2	5/2010	Seipel	2010/0192406	A1	8/2010	Au
7,726,046	B2	6/2010	Portnell	2010/0198322	A1	8/2010	Joseph et al.
7,823,302	B2	11/2010	Mann et al.	2010/0217363	A1 *	8/2010	Whitely
D629,914	S *	12/2010	Hunter	A61F 7/02			
7,879,501	B2	2/2011	Schaevitz et al.				607/112
D637,552	S	5/2011	Inman et al.	2011/0083339	A1	4/2011	Luo
7,985,502	B2	7/2011	Abe et al.	2011/0107771	A1	5/2011	Crist et al.
D642,517	S	8/2011	Inman et al.	2011/0259356	A1	10/2011	Barton et al.
D643,674	S *	8/2011	Lee	2011/0296714	A1	12/2011	Holzer
D651,343	S	12/2011	Robson	2011/0306299	A1	12/2011	Wells
8,074,373	B2	12/2011	Macher et al.	2012/0005919	A1	1/2012	Chen
8,084,722	B2	12/2011	Haas et al.	2012/0240955	A1	9/2012	Kennedy et al.
D654,429	S	2/2012	Li et al.	2013/0019503	A1	1/2013	Vogt
D658,330	S	4/2012	Yue	2013/0085421	A1	4/2013	Gillespie et al.
D660,798	S	5/2012	Tseng	2013/0116759	A1	5/2013	Levinson et al.
8,273,485	B2	9/2012	Schaevitz et al.	2013/0139605	A1	6/2013	Burke et al.
D672,500	S	12/2012	Kim	2013/0174451	A1	7/2013	Kremer et al.
D672,501	S	12/2012	Kim	2013/0181662	A1	7/2013	Shapiro
8,384,551	B2	2/2013	Ross et al.	2013/0213147	A1	8/2013	Rice et al.
8,389,909	B2	3/2013	Wang et al.	2013/0244074	A1	9/2013	Kremer et al.
8,397,518	B1	3/2013	Vistikula	2013/0247410	A1	9/2013	Tseng
D682,195	S	5/2013	Aglassinger	2014/0059894	A1	3/2014	Lupinek et al.
D685,729	S	7/2013	Lyman	2014/0076349	A1	3/2014	Deng
D686,157	S	7/2013	Kawase et al.	2014/0182162	A1	7/2014	Hakkala
D687,558	S	8/2013	Sonoda	2014/0182163	A1	7/2014	Krupenkin et al.
8,510,969	B2	8/2013	Luo	2014/0222173	A1	8/2014	Giedwoyn et al.
D689,019	S	9/2013	Sato et al.	2014/0277632	A1	9/2014	Walker
D690,022	S	9/2013	Sonoda	2015/0142088	A1 *	5/2015	Riva Godoy
D694,176	S	11/2013	Buetow et al.				A61F 7/03
D696,549	S	12/2013	Pennington				607/108
D698,313	S	1/2014	Buetow et al.	2015/0335121	A1	11/2015	Floessholzer et al.
D698,489	S	1/2014	Byun				
8,638,958	B2	1/2014	Wells				
D698,931	S	2/2014	Wang				
D699,178	S	2/2014	Ashida et al.				
D699,179	S	2/2014	Alexander	CN	2281677	5/1998	
D700,135	S	2/2014	Sato et al.	CN	2515992	Y	10/2002
8,658,943	B1	2/2014	Larsen et al.	CN	101641027	A	2/2010
8,715,329	B2	5/2014	Robinson et al.	CN	201806017	U	4/2011
8,777,441	B2	7/2014	Vazquez	CN	201976877	U	9/2011
D713,048	S *	9/2014	Ogaki	DE	3904603	A1	8/1990
8,850,716	B2	10/2014	Whitehead et al.	DE	20317143	U1	4/2004
8,869,428	B1	10/2014	Zsolcsak et al.	DE	10352050	A1	12/2004
8,869,429	B1	10/2014	Zsolcsak et al.	DE	102008029727	A1	12/2009
				EP	0251084	A2	1/1988

FOREIGN PATENT DOCUMENTS

US D801,624 S

Page 3

EP	0854696	B1	7/1998
EP	1820247	A2	8/2007
EP	2215918	A2	8/2010
KR	20-0273770		4/2002
KR	100539710	B1	12/2005
KR	2009-0117205	A	11/2009
WO	2006054080	A2	5/2006
WO	2006/111823	A1	10/2006
WO	2008/006731	A1	1/2008
WO	2008/069254	A1	6/2008
WO	2008/069524	A1	6/2008
WO	2011057142	A2	5/2011
WO	2013/101920	A1	7/2013
WO	2013119199	A1	8/2013
WO	2014064518	A2	5/2014

International Search Report and Written Opinion, dated Apr. 22, 2013, for International Patent Application No. PCT/U52012/071797, filed Dec. 27, 2012, (9 pages).

International Search Report and Written Opinion, dated Sep. 3, 2014, for International Patent Application No. PCT/U52014/033499, filed Apr. 9, 2014, (10 pages).

International Search Report and Written Opinion of the International Search Authority, dated Feb. 25, 2016 for International Application No. PCT/US2015/062458 (12 Pages).

International Search Report and Written Opinion of the International Searching Authority, dated Oct. 4, 2016 for International Application No. PCT/US2016/032891 (17 Pages).

Invitation and Partial International Search Report, dated Aug. 8, 2016 for International Application No. PCT/US2016/032891 (6 Pages).

Kenisarin et al., 2007, Solar energy storage using phase change materials, Renewable and Sustainable Energy Reviews, 11(9):1913-1965.

Sharma et al., 2009, Review on thermal energy storage with phase change materials and applications, Renewable and Sustainable Energy Reviews, 13(2):318-345.

Extended European Search Report, dated Jun. 29, 2017 for European Application No. 14866929.4 (7 Pages).

* cited by examiner

Primary Examiner — Elizabeth J Oswecki

(74) *Attorney, Agent, or Firm* — Brown Rudnick LLP

(57)

CLAIM

The ornamental design for a heat pack, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a heat pack showing our new design;

FIG. 2 is a front view thereof;

FIG. 3 is a back view thereof;

FIG. 4 is a bottom view thereof;

FIG. 5 is a top view thereof;

FIG. 6 is a left side view thereof;

FIG. 7 is a right side view thereof; and,

FIG. 8 is a back perspective view thereof.

The drawings are dotted in FIGS. 3 and 8 to show features of the heat pack having a contrasting material, surface texture, color, or any combination thereof as compared to other features of the heat pack.

1 Claim, 8 Drawing Sheets

U.S. Patent

Nov. 7, 2017

Sheet 1 of 8

US D801,624 S

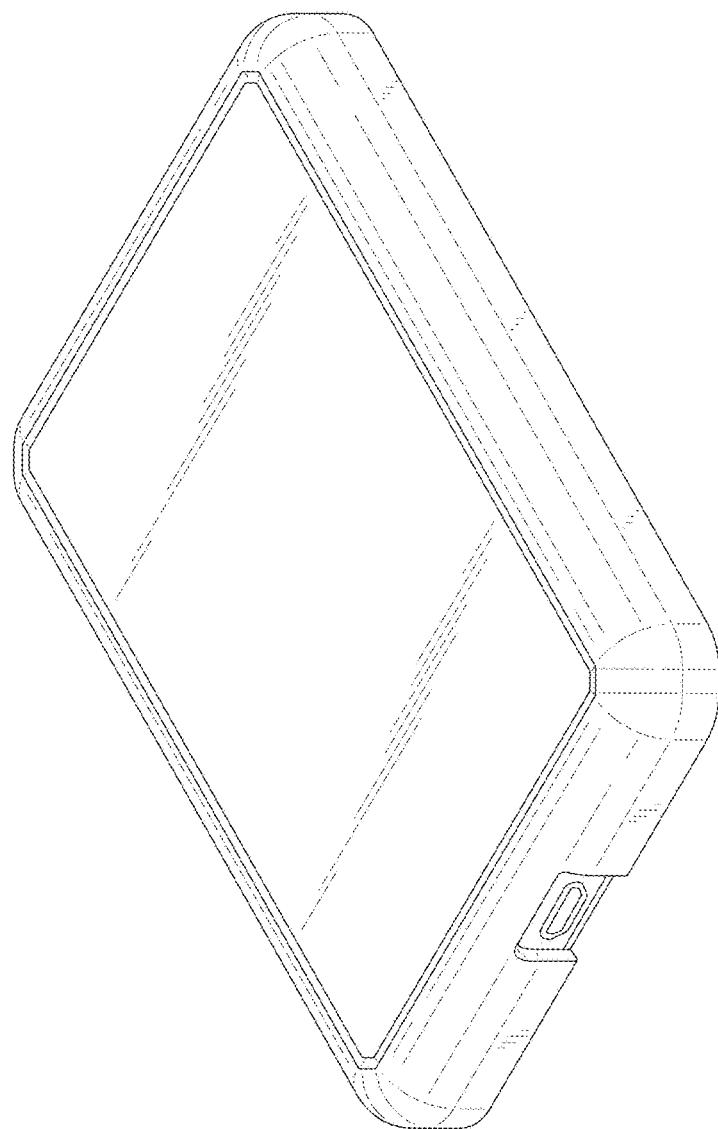


FIG. 1

U.S. Patent

Nov. 7, 2017

Sheet 2 of 8

US D801,624 S

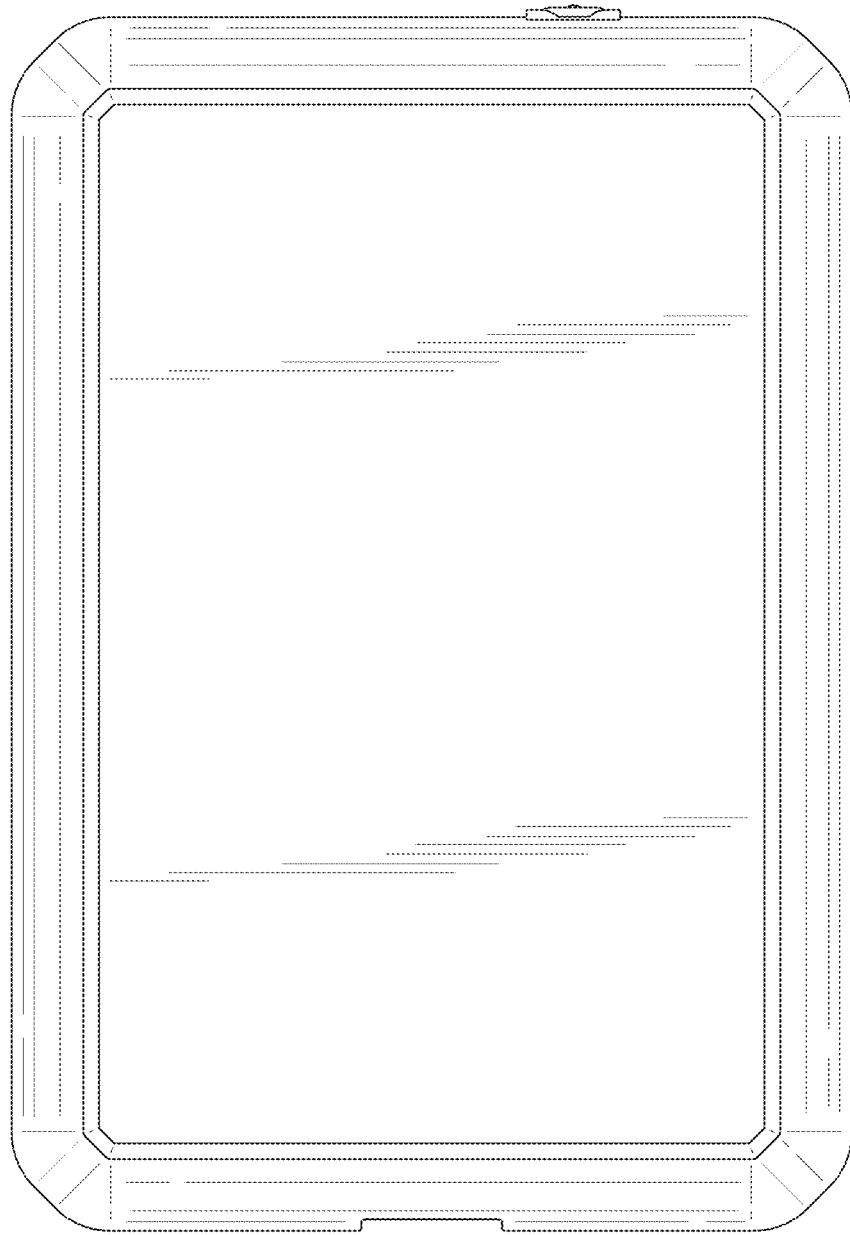


FIG. 2

U.S. Patent

Nov. 7, 2017

Sheet 3 of 8

US D801,624 S

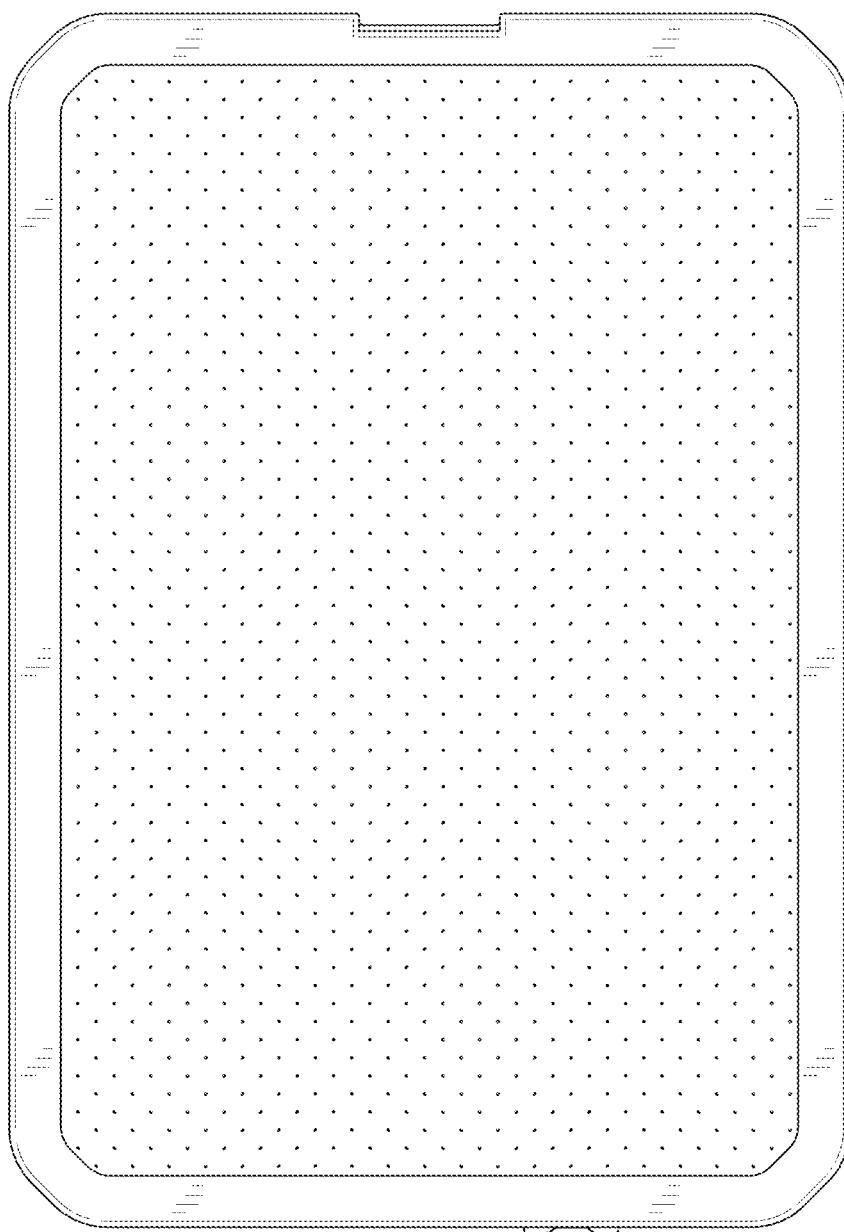


FIG. 3

U.S. Patent

Nov. 7, 2017

Sheet 4 of 8

US D801,624 S

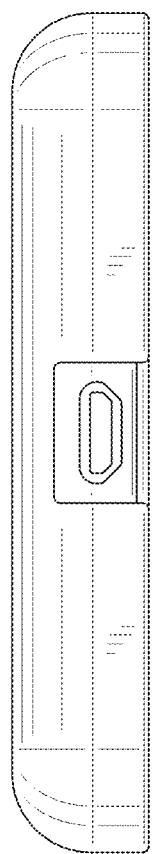


FIG. 4

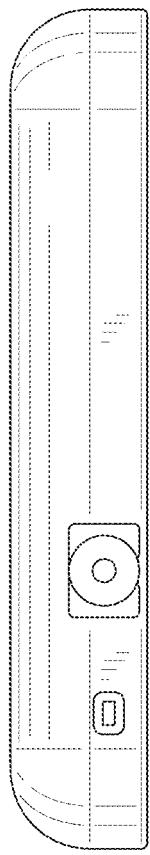
U.S. Patent

Nov. 7, 2017

Sheet 5 of 8

US D801,624 S

FIG. 5



U.S. Patent

Nov. 7, 2017

Sheet 6 of 8

US D801,624 S



FIG. 6

U.S. Patent

Nov. 7, 2017

Sheet 7 of 8

US D801,624 S

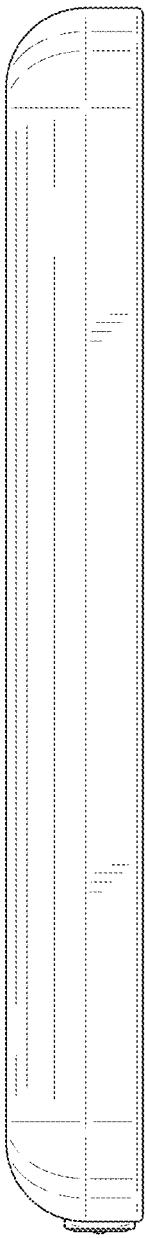


FIG. 7

U.S. Patent

Nov. 7, 2017

Sheet 8 of 8

US D801,624 S

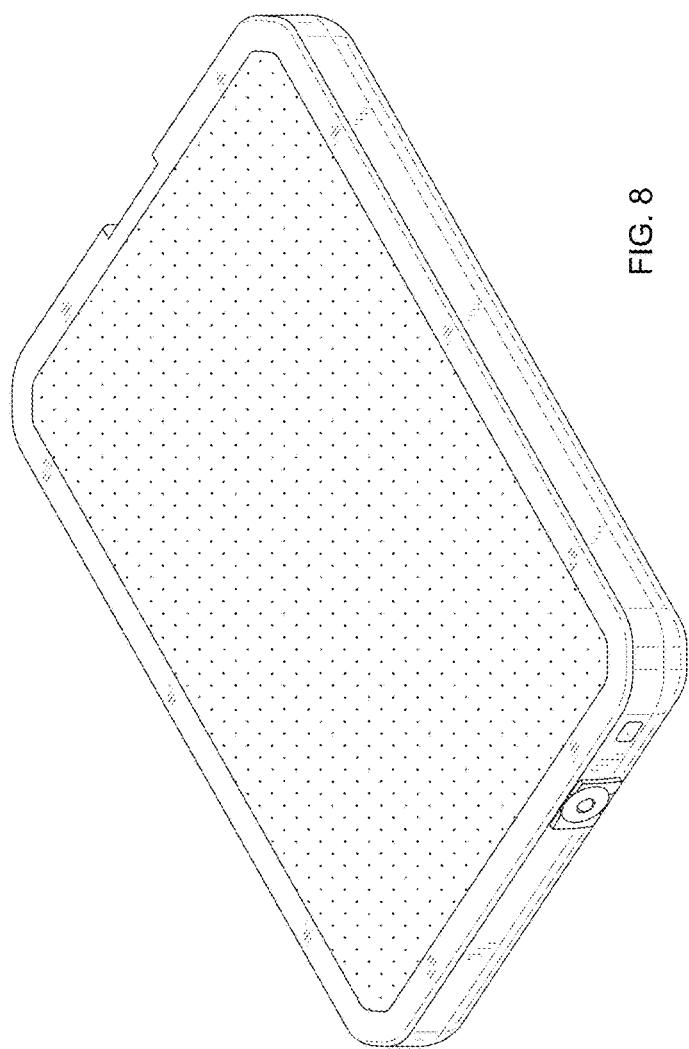


FIG. 8